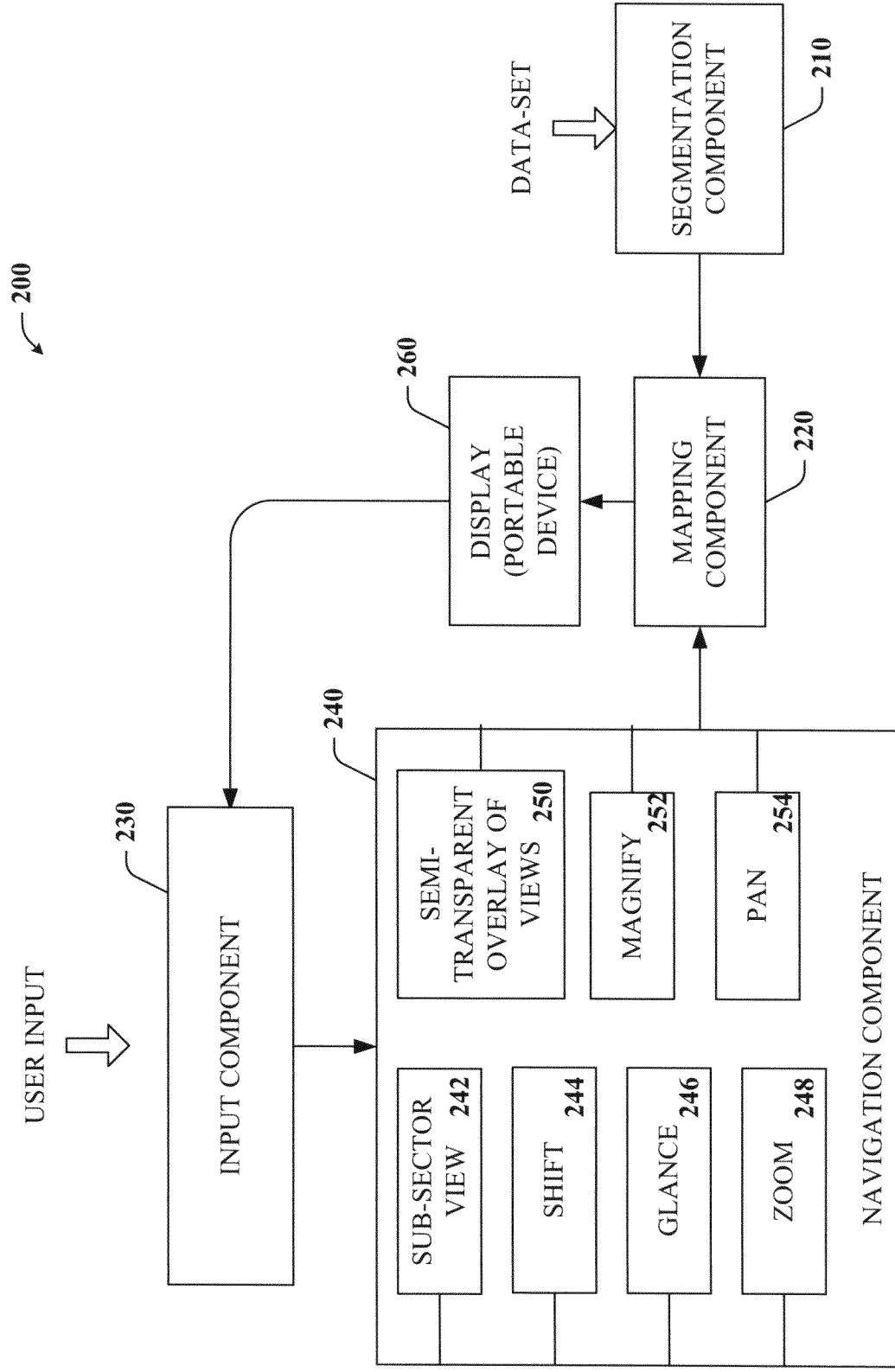
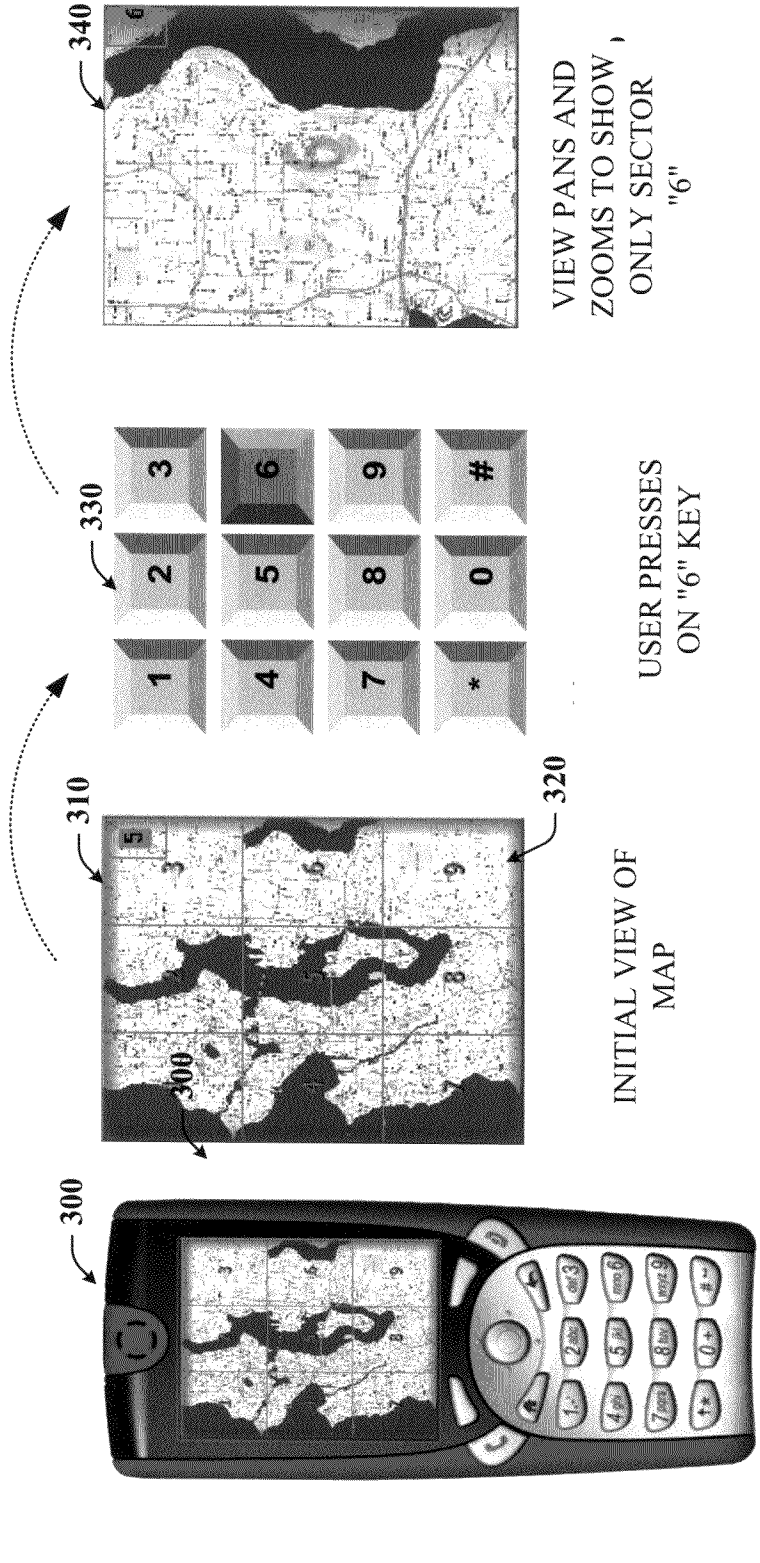


**FIG. 1**



**FIG. 2**



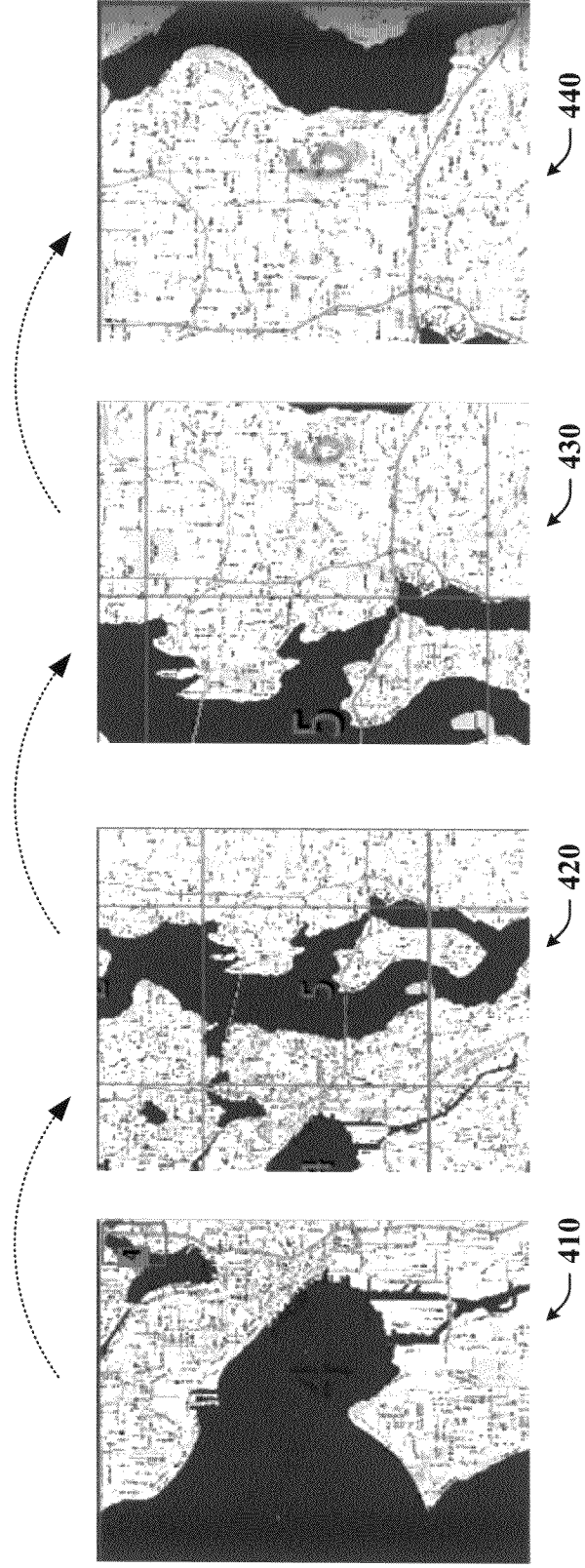
VIEW PANS AND  
ZOOMS TO SHOW  
ONLY SECTOR  
"6"

USER PRESSES  
ON "6" KEY

INITIAL VIEW OF  
MAP

EXEMPLARY PORTABLE  
DEVICE WITH KEYPAD -  
USING SUBJECT NAVIGATION  
SYSTEM

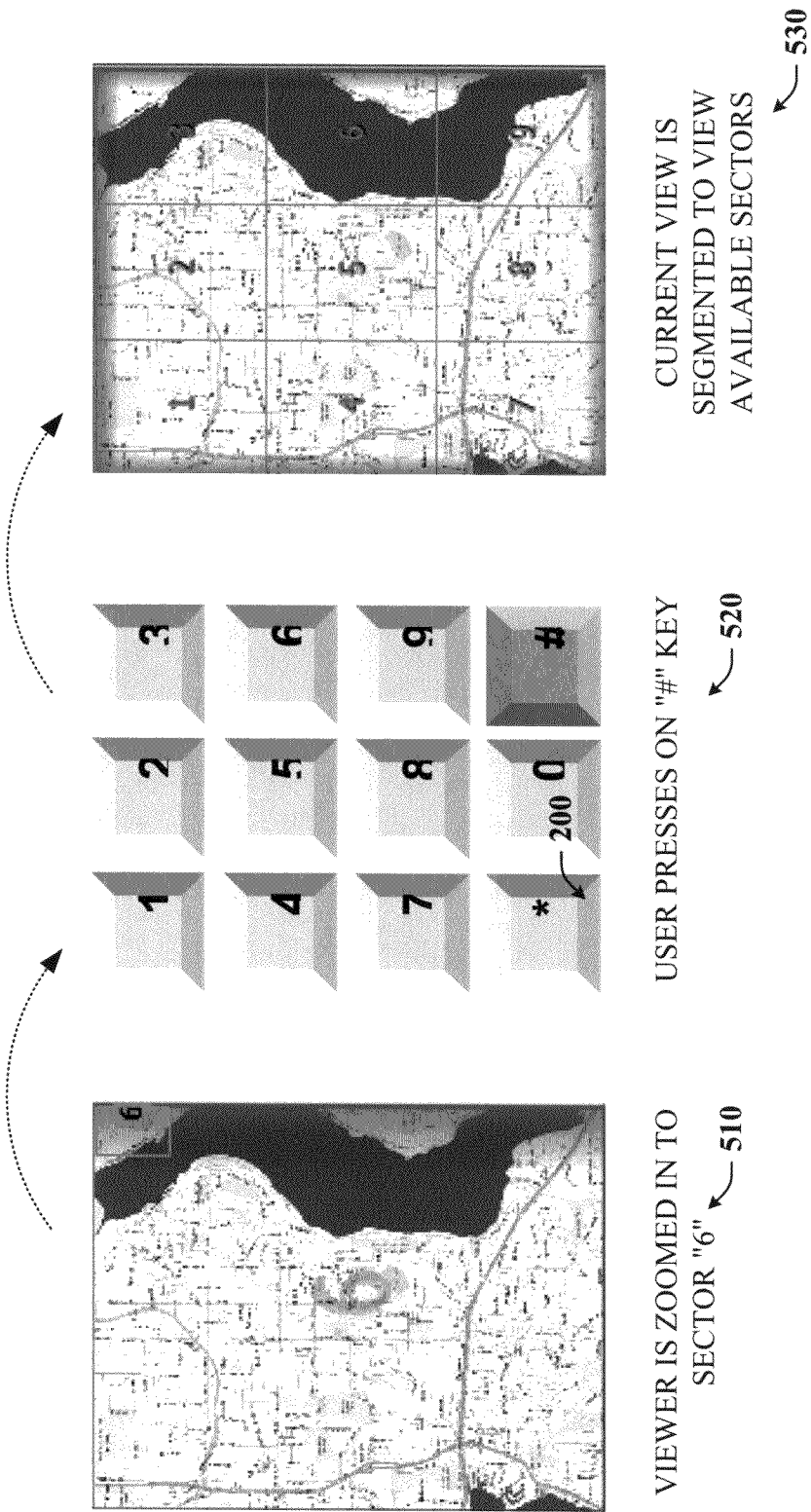
FIG. 3



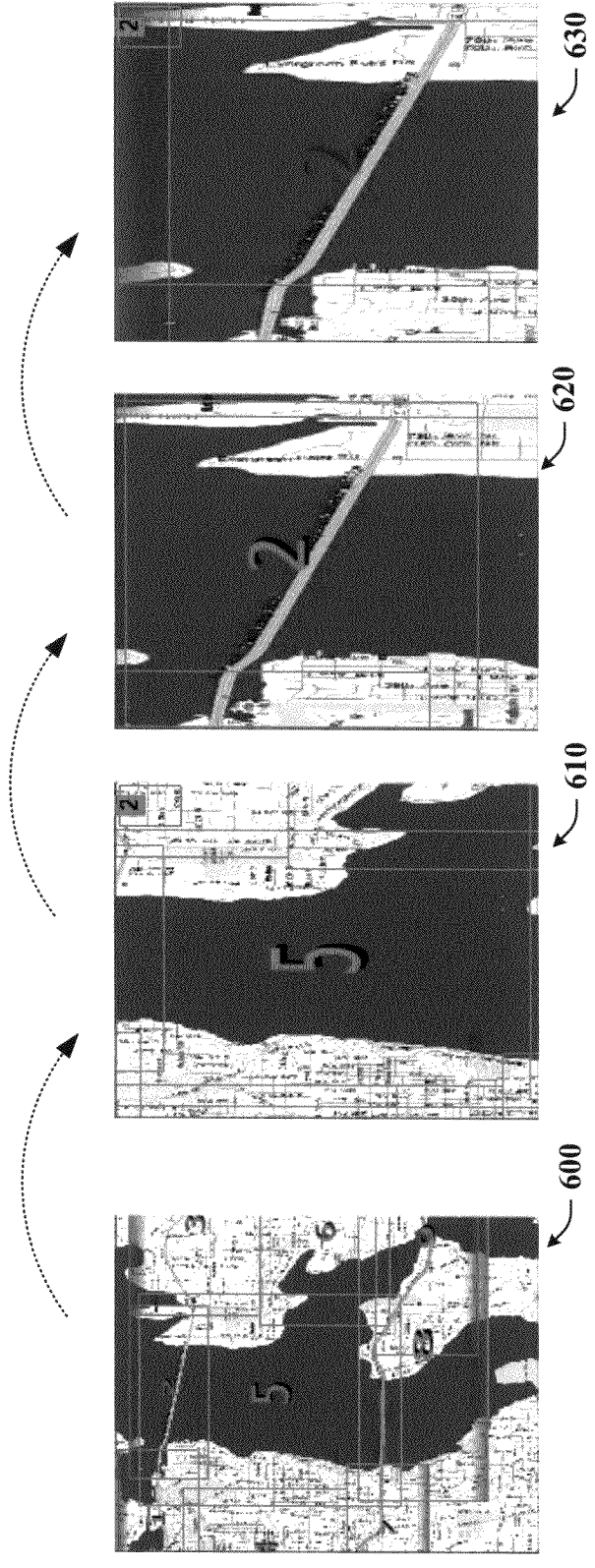
VIEW ZOOMS OUT DURING PAN FROM ONE SIBLING VIEW (SECTOR 4) TO ANOTHER (SECTOR 6)

**FIG. 4**





**FIG. 5**

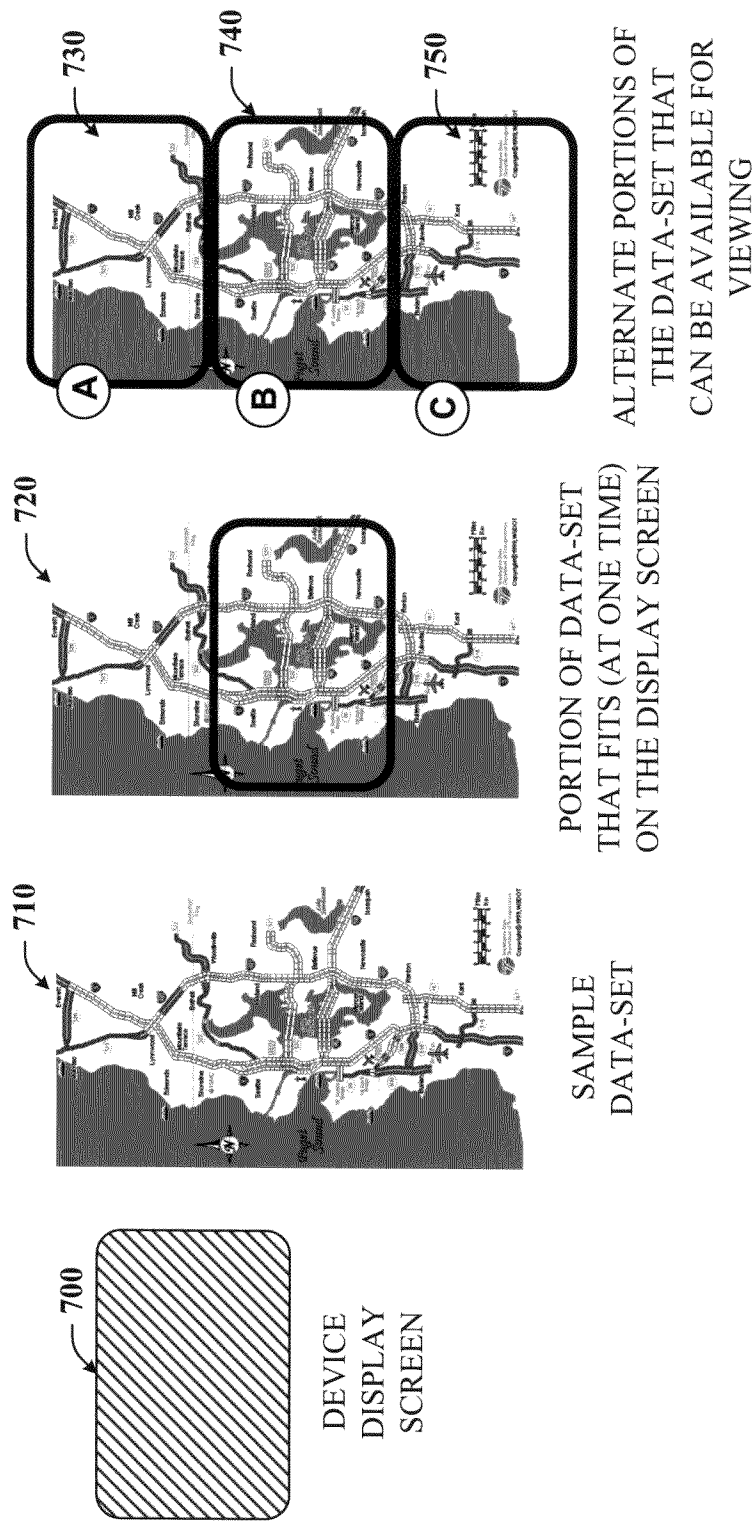


THE CURRENT VIEW IS  
DIVIDED INTO SECTORS  
THAT ARE OPTIMIZED

DURING THE VIEW ANIMATION, THE MAP SHRINKS AND STRETCHES SO  
THAT THE ASPECT OF THE SELECTED CHILD VIEW FILLS THE FRAME

FIG. 6

RELATIONSHIP BETWEEN ZOOMED IN VIEW REGIONS, ENTIRE DATA-SET, AND DISPLAY DEVICE



**FIG. 7**

SEQUENCE OF EVENTS THAT HAPPEN WHEN USER PRESSES-AND-HOLDS A BUTTON THAT IS ASSIGNED TO A PARTICULAR VIEW

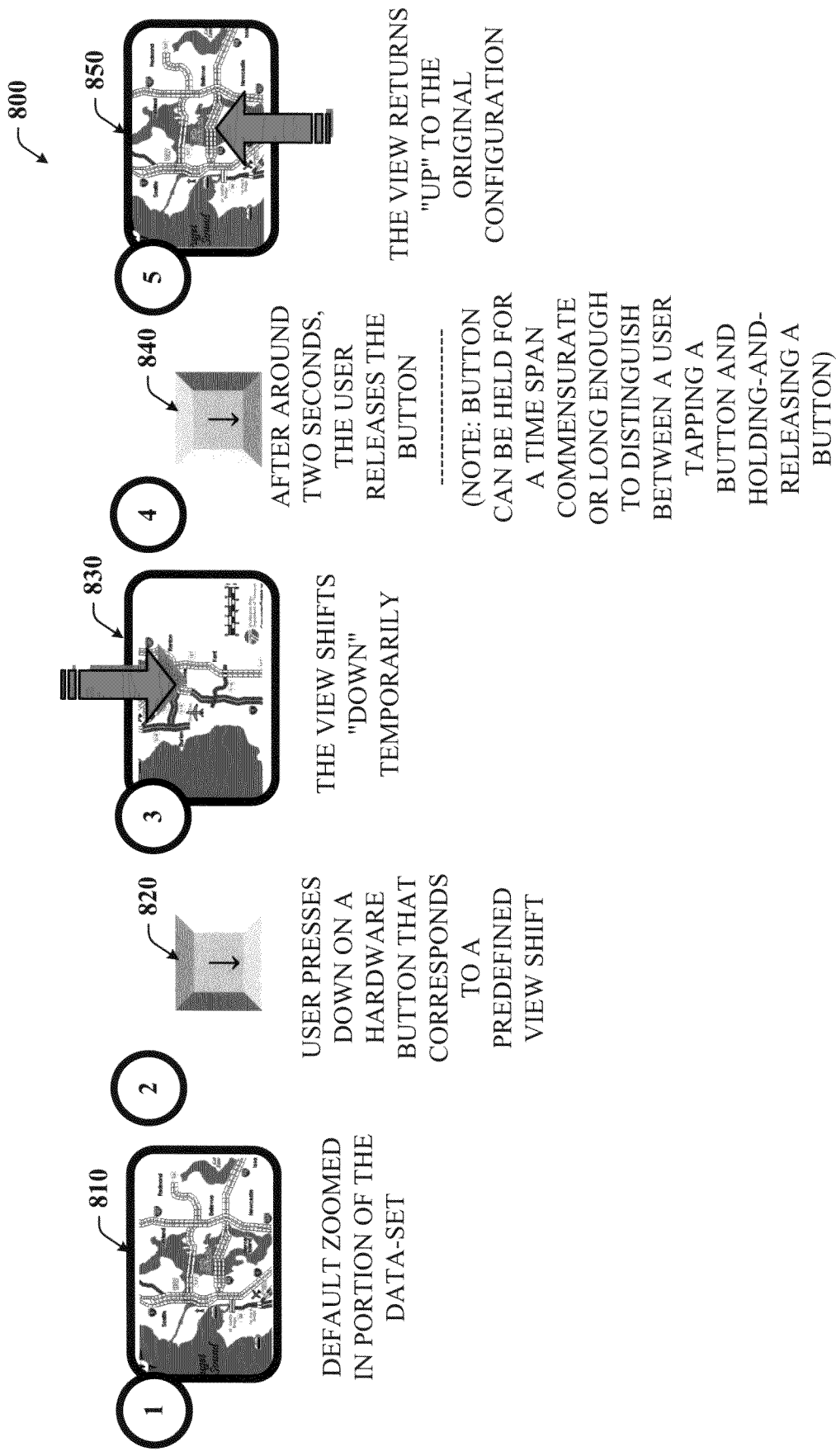
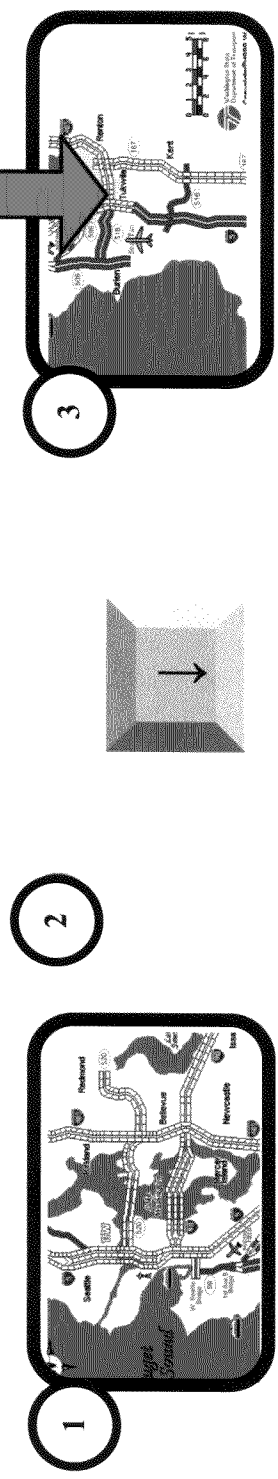


FIG. 8

SEQUENCE OF EVENTS THAT HAPPEN WHEN USER TAPS A BUTTON THAT IS ASSIGNED TO A PARTICULAR VIEW

900



DEFAULT ZOOMED IN  
PORTION OF THE DATA-SET

USER TAPS (QUICKLY  
PRESSES AND RELEASES) A  
HARDWARE BUTTON THAT  
CORRESPONDS TO A PRE-  
DEFINED VIEW

THE VIEW SHIFTS  
"DOWN" TO THE NEW  
CONFIGURATION

FIG. 9

SEQUENCE OF EVENTS THAT HAPPEN WHEN USER TAPS A BUTTON AFTER VIEW HAS ALREADY SHIFTED -  
TO TOGGLE THE VIEW

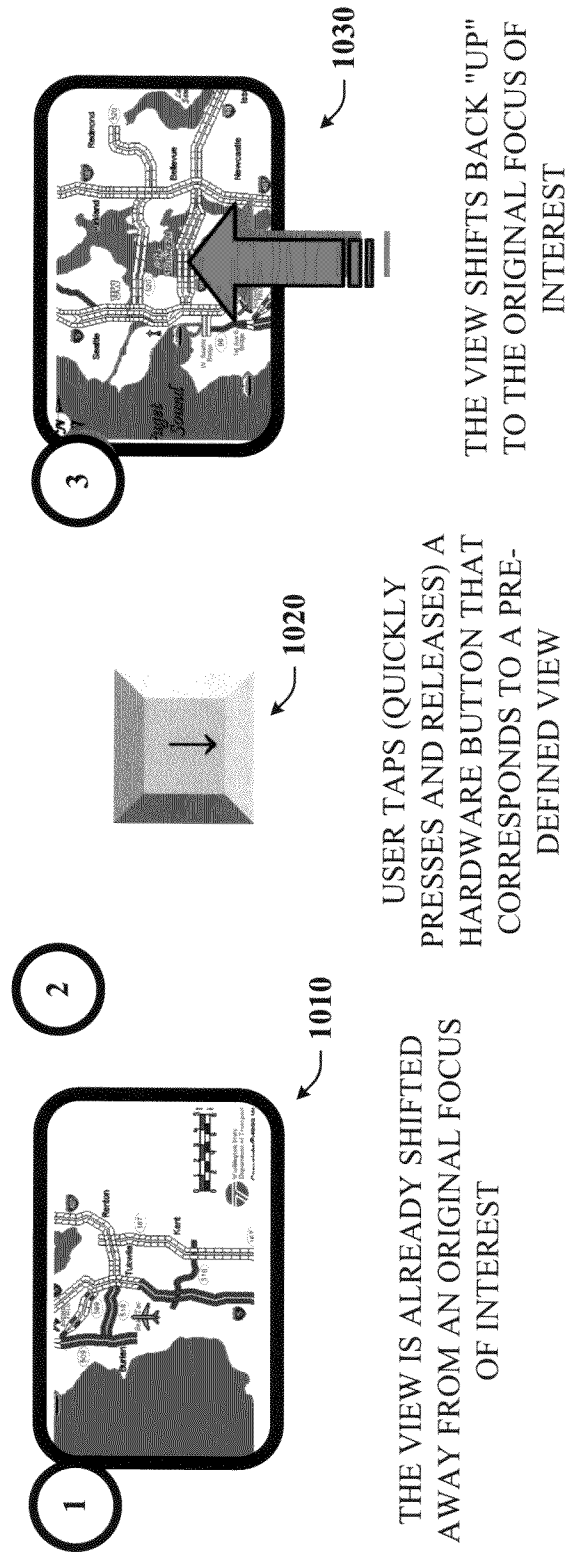


FIG. 10

SIMPLE SEGMENTATION OF THE MOST ZOOMED OUT VIEW OF A DATA-SET

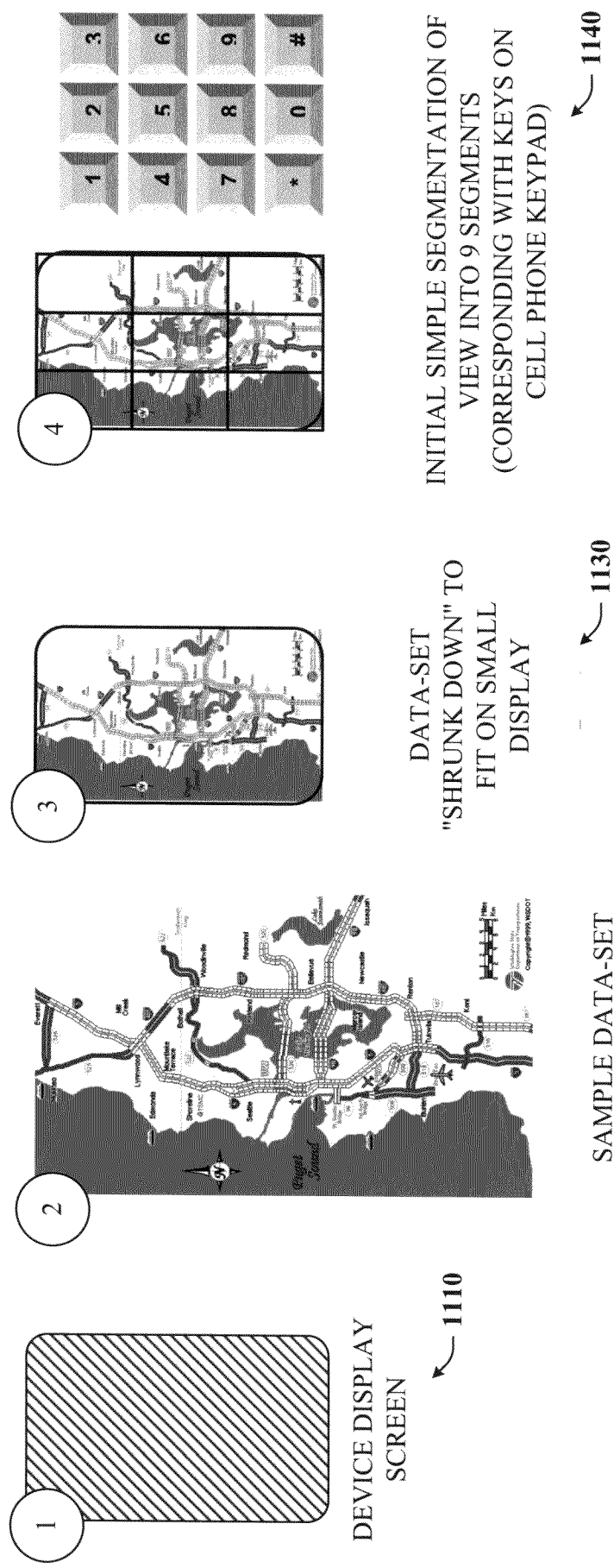
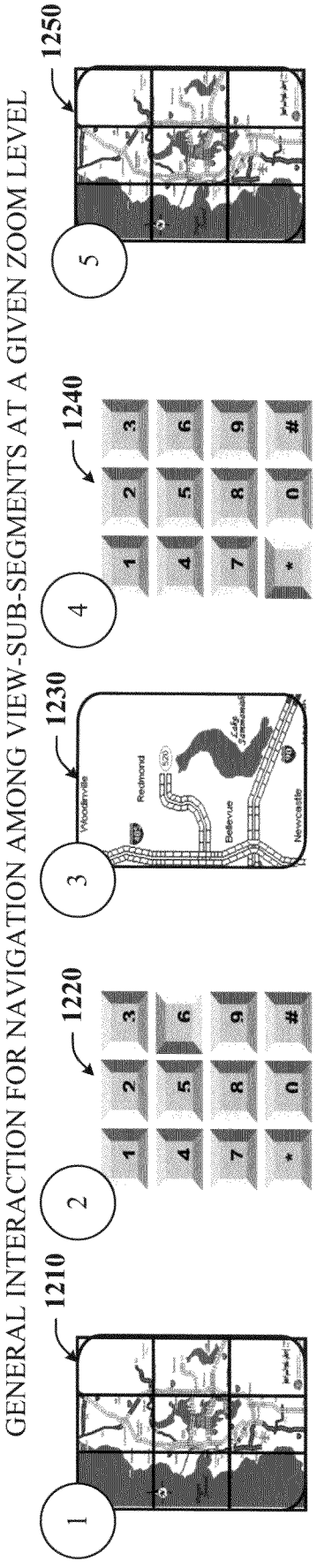


FIG. 11

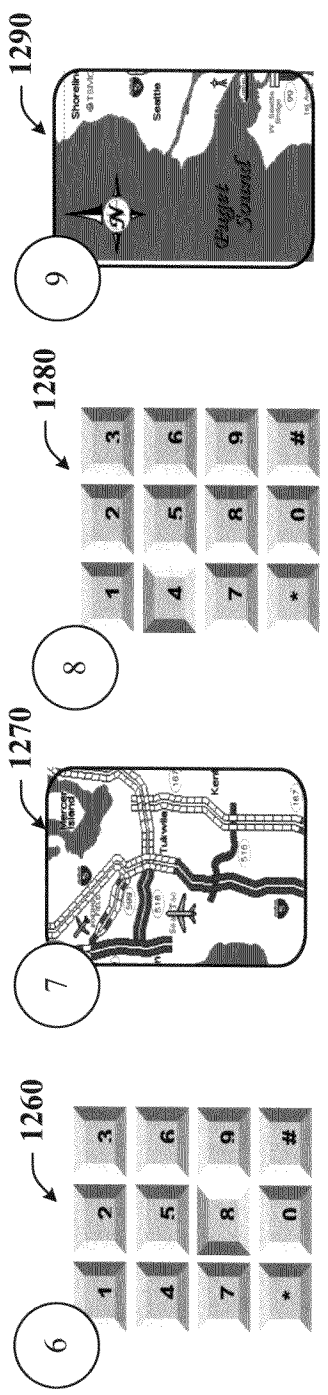


INITIAL SEGMENTATION OF VIEW

THE VIEW ZOOMS BACK OUT TO THE INITIAL VIEW

VIEW ZOOMS IN TO JUST SHOW VIEW-SUB-SEGMENT THAT CORRESPONDS TO KEY "6"

USER TAPS ON "\*" KEY WHICH IS MAPPED TO "ZOOM-OUT"



VIEW ZOOMS IN TO JUST SEGMENT "8"

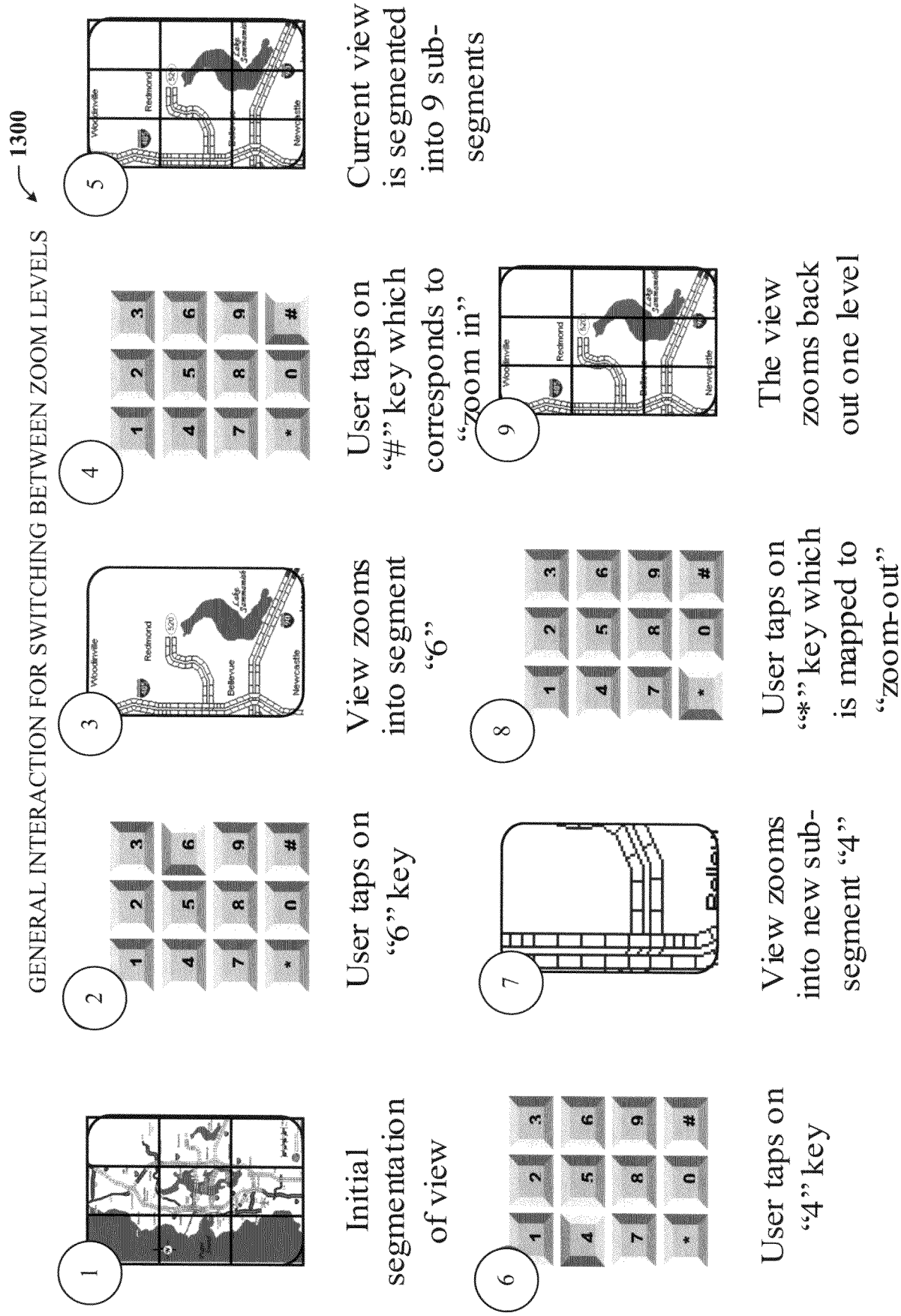
VIEW STAYS AT CURRENT ZOOM LEVEL BUT SHIFTS TO SHOW SEGMENT "4"

USER TAPS ON "8" KEY

USER TAPS ON "\*" KEY

FIG. 12





**FIG. 13**

# DIFFERENT TYPES OF SEGMENTATION

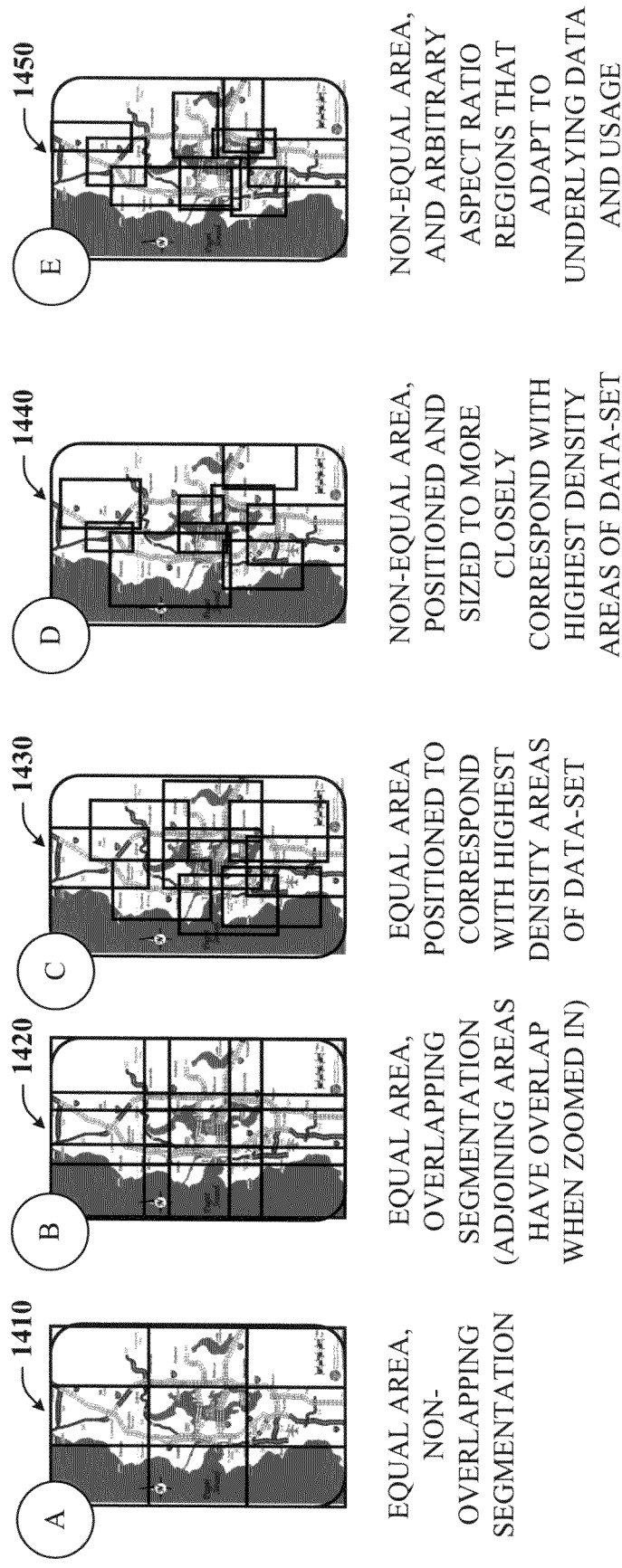
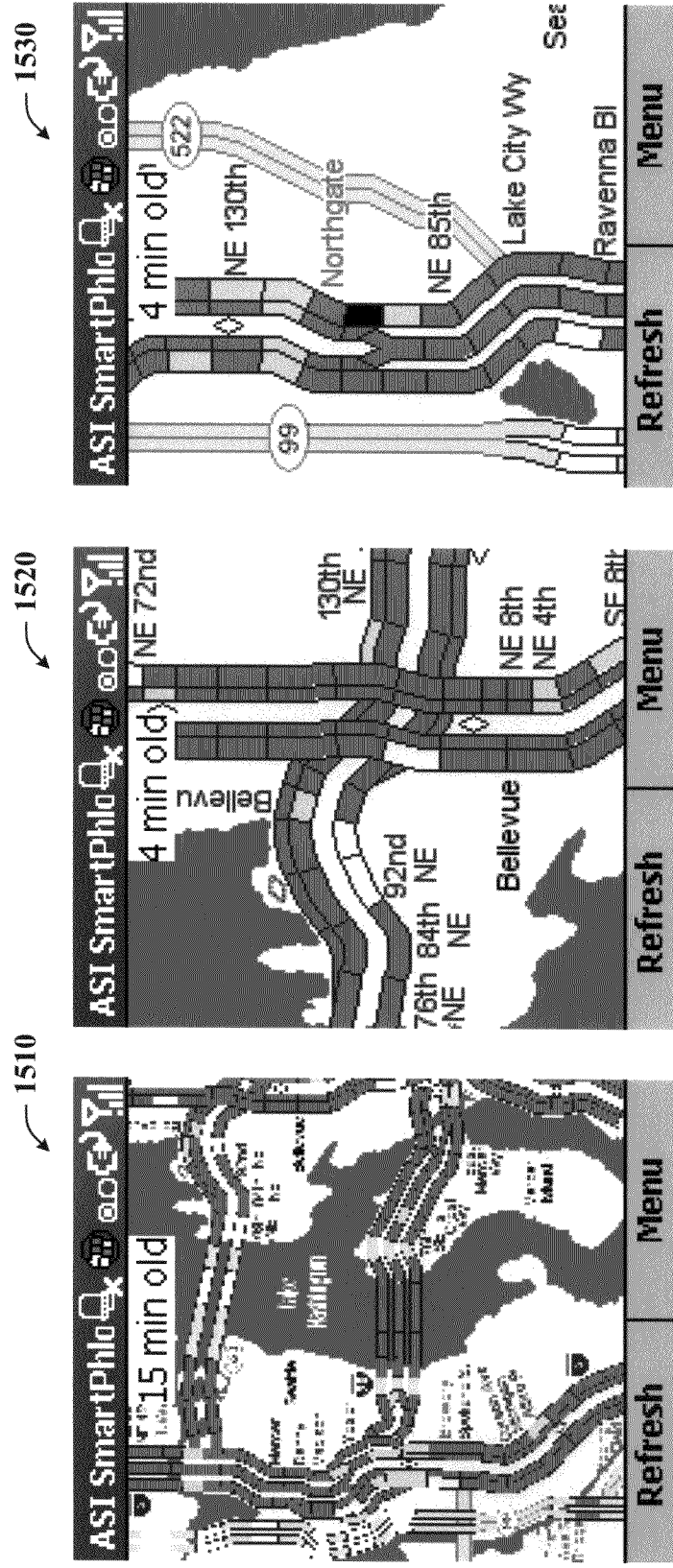


FIG. 14



### ZOOMED OUT VIEW OF THE TRAFFIC MAP

TWO DIFFERENT VIEW SECTORS (AT THE SAME ZOOM LEVEL)

FIG. 15

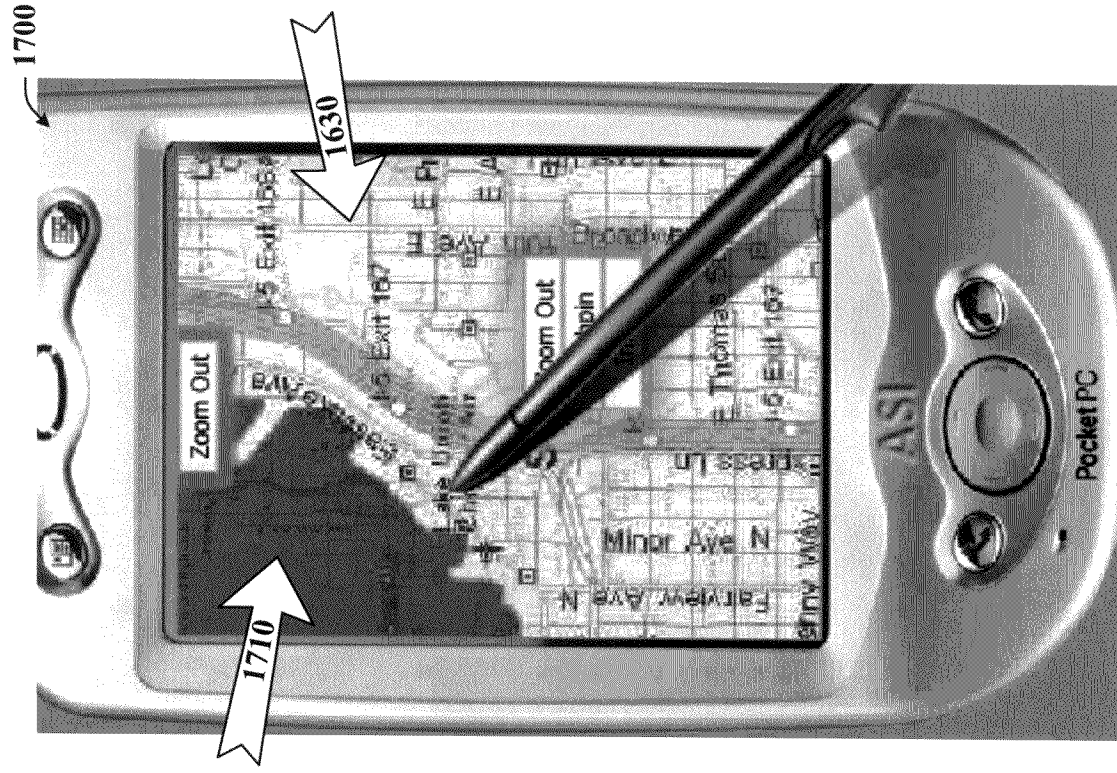


FIG. 17

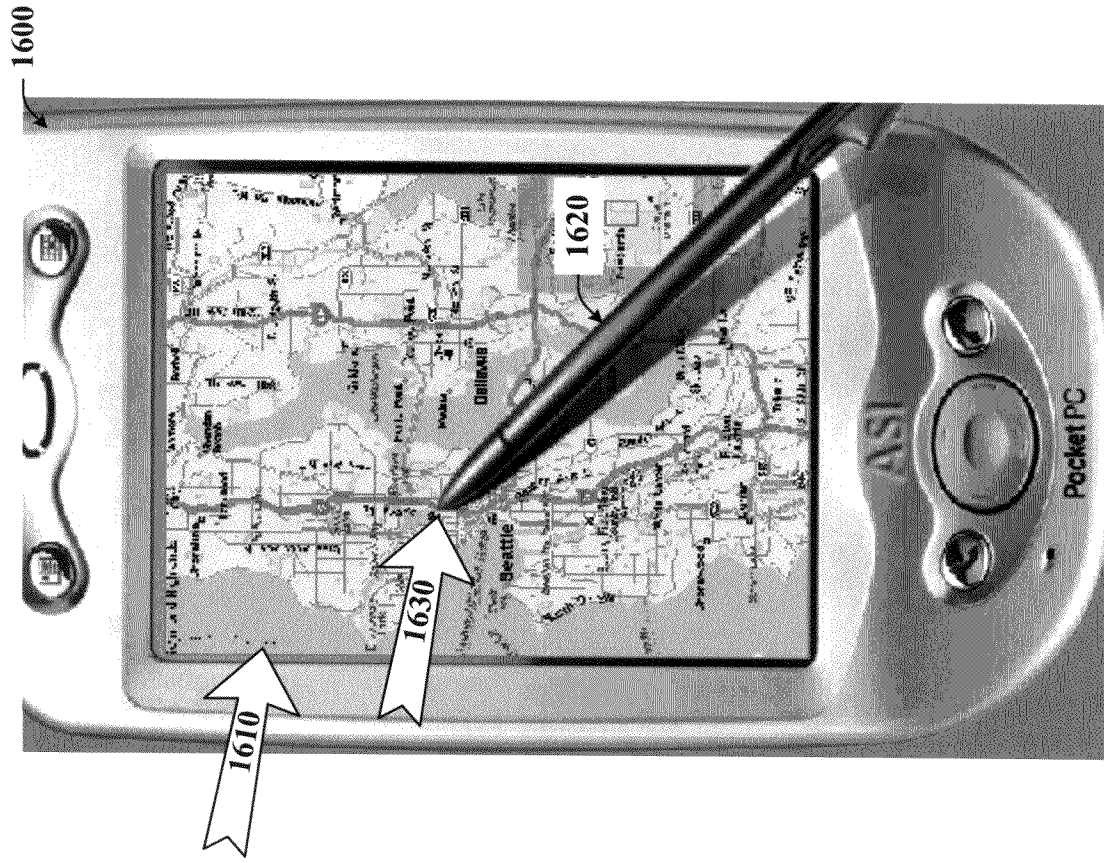


FIG. 16

1900

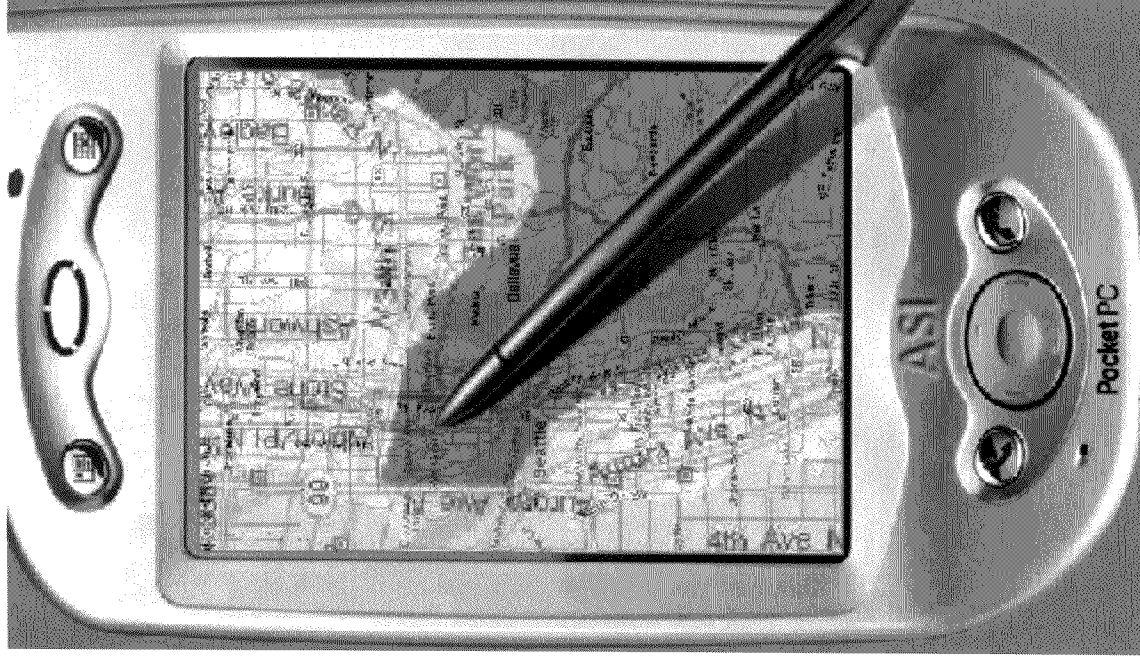


FIG. 19

1800

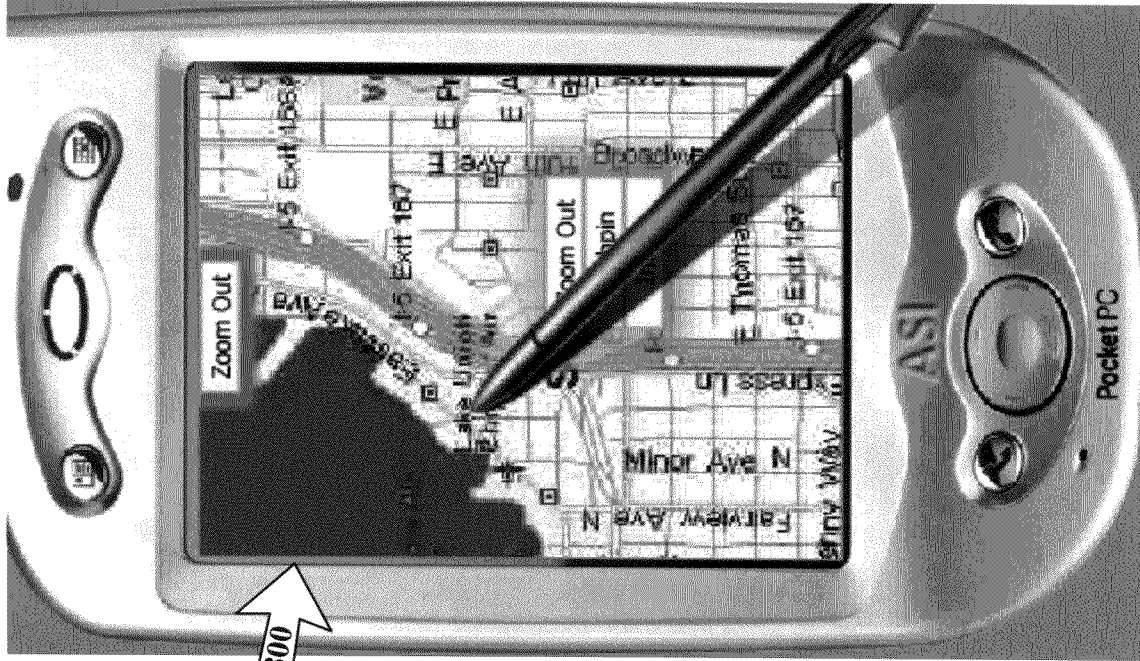
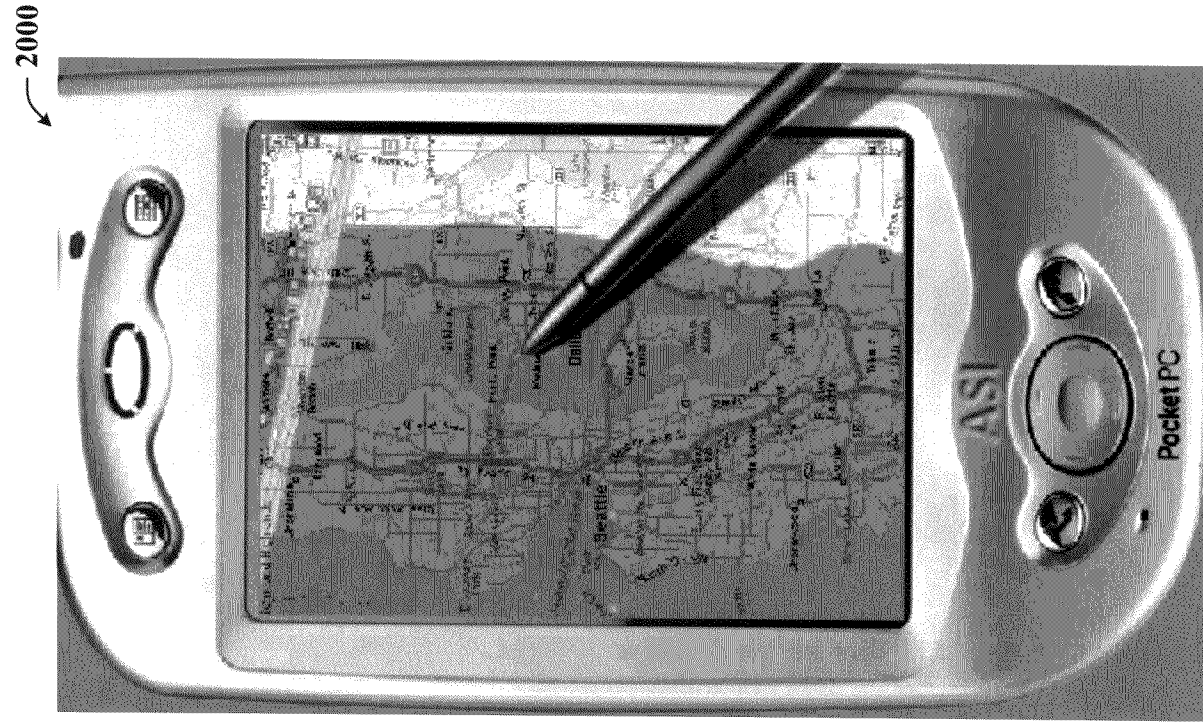
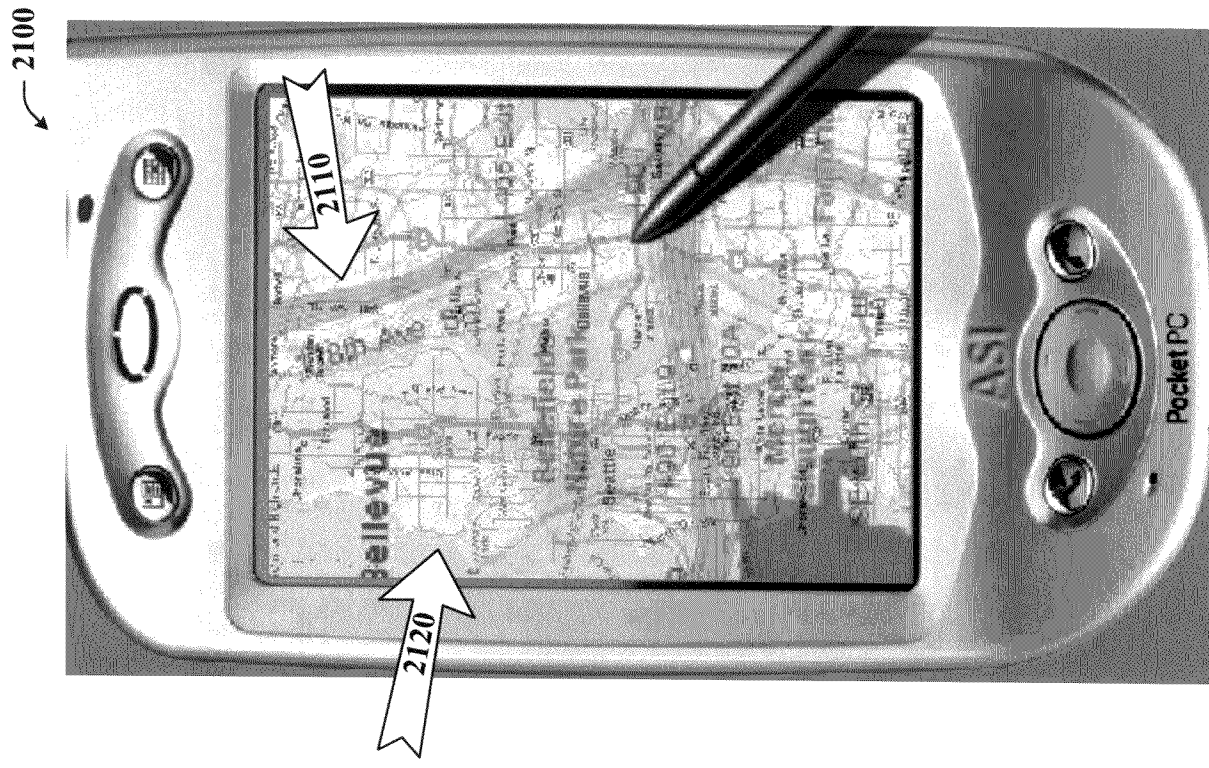
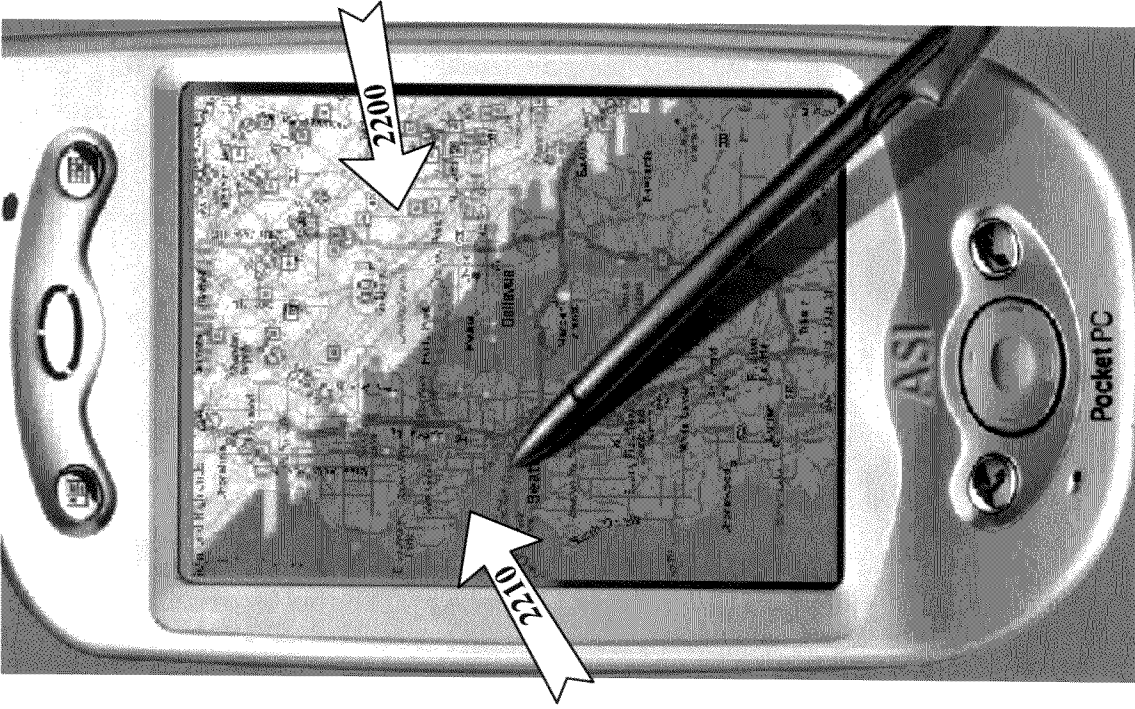


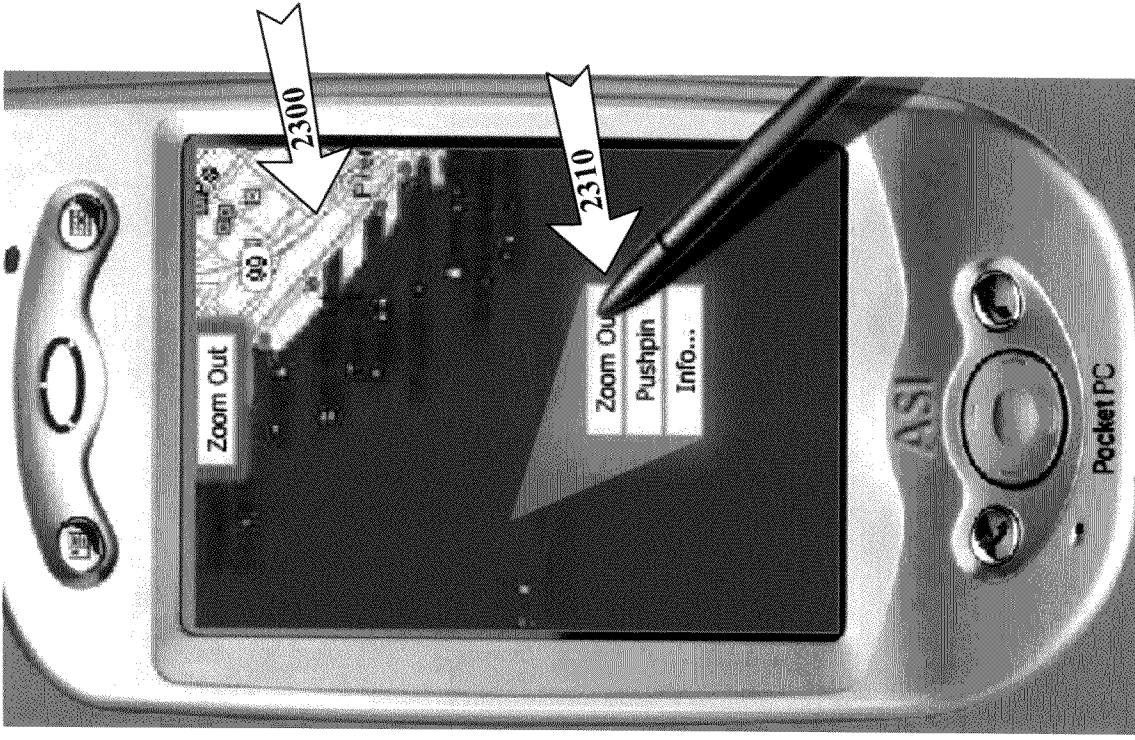
FIG. 18



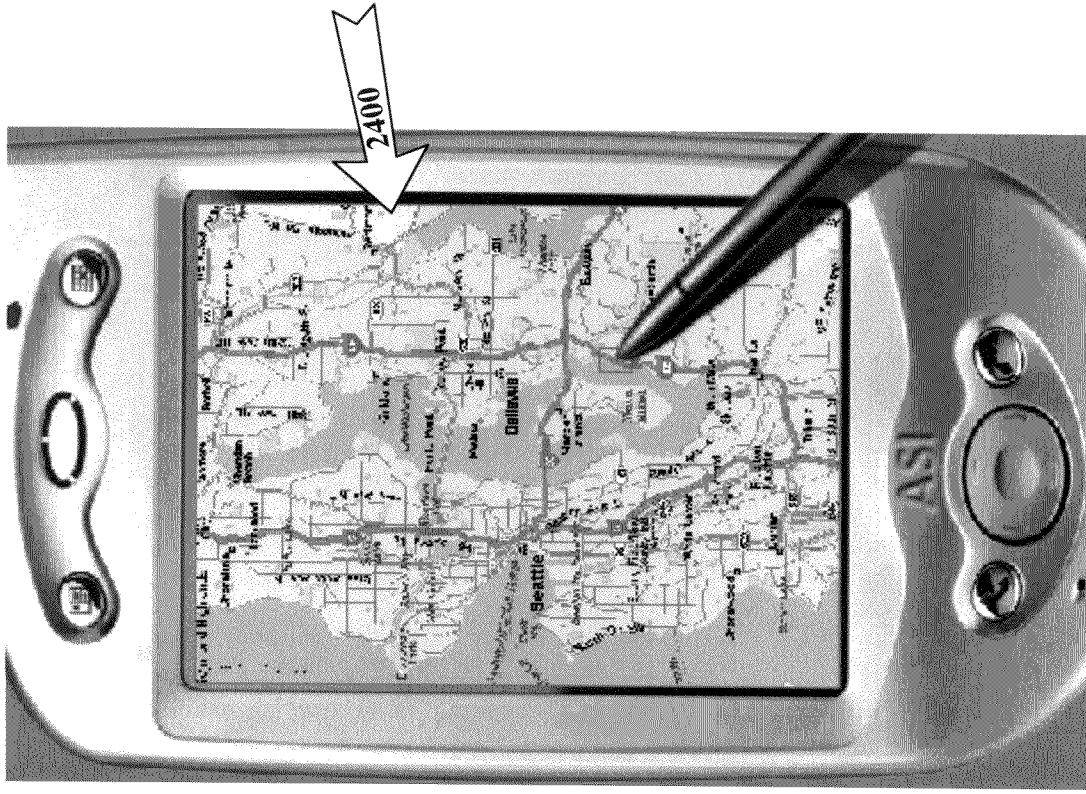




**FIG. 22**



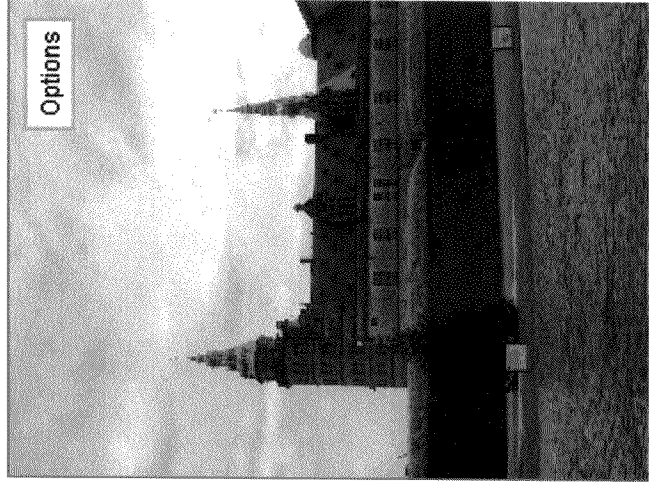
**FIG. 23**



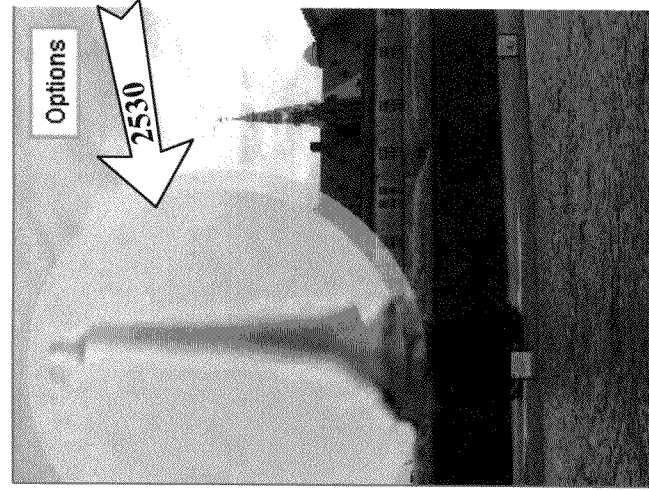
**FIG. 24**



2500



2510



2520

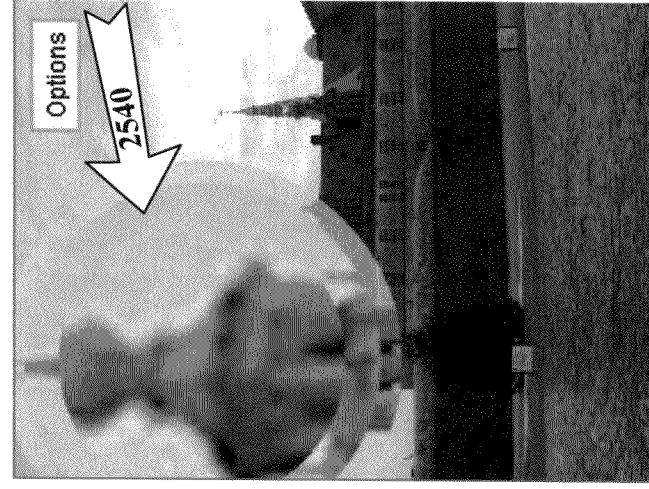


FIG. 25





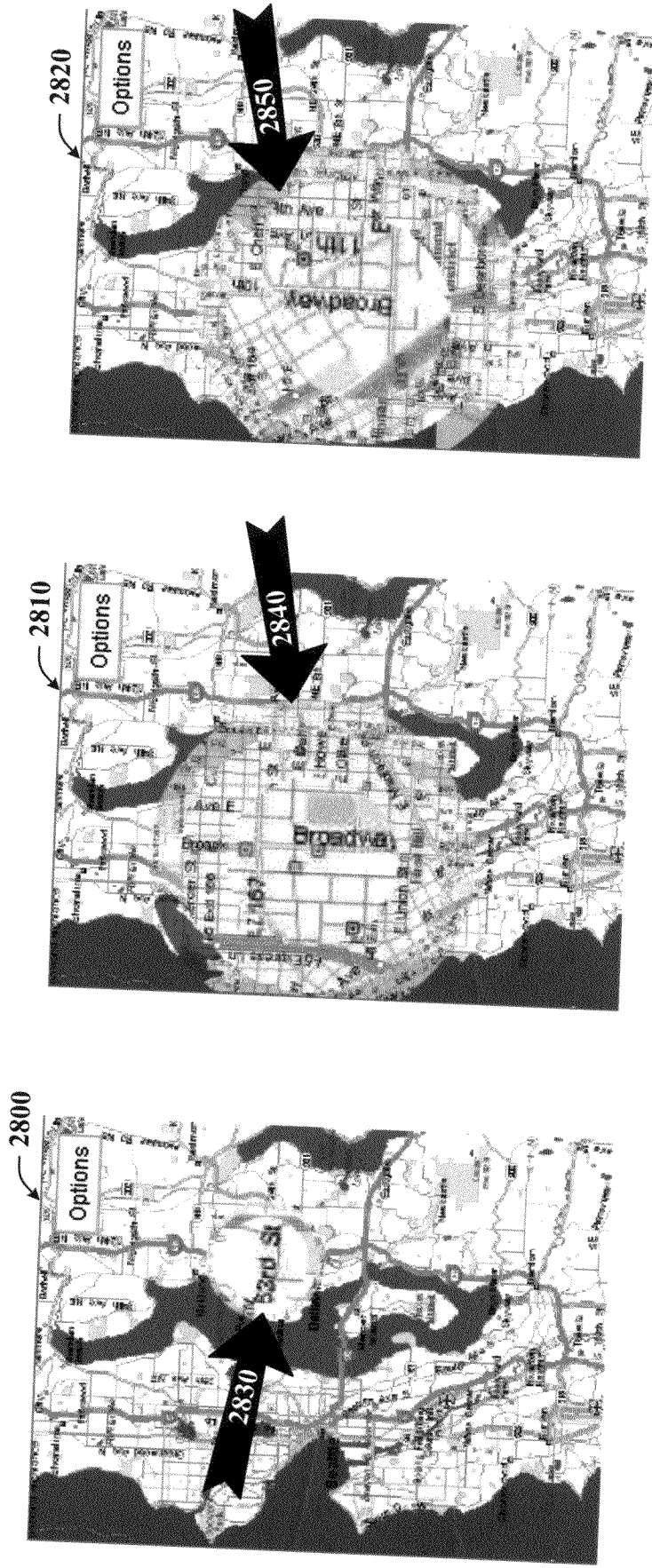
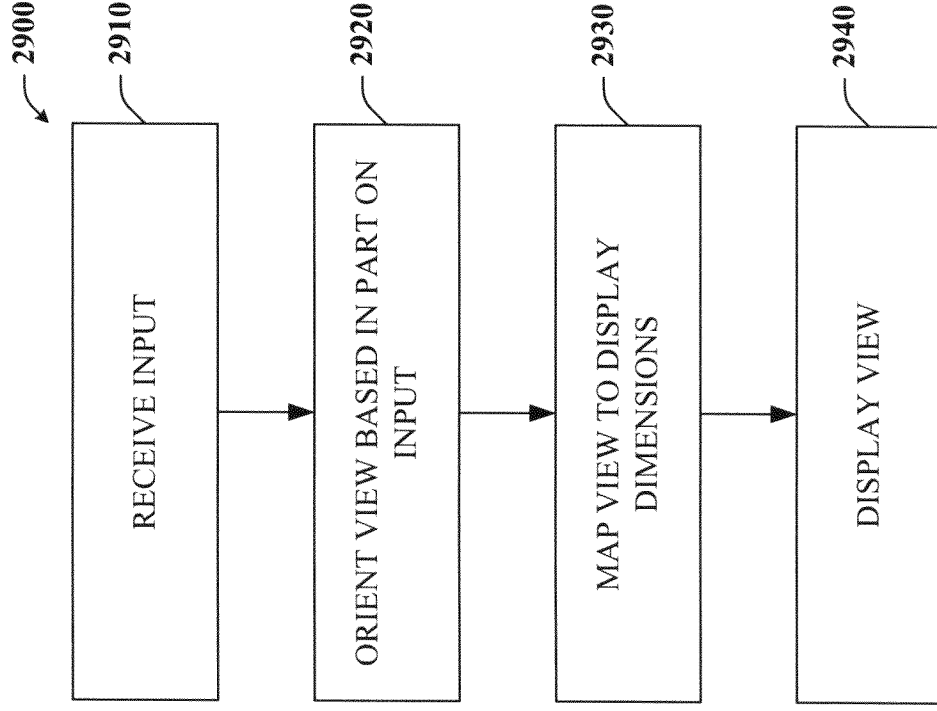
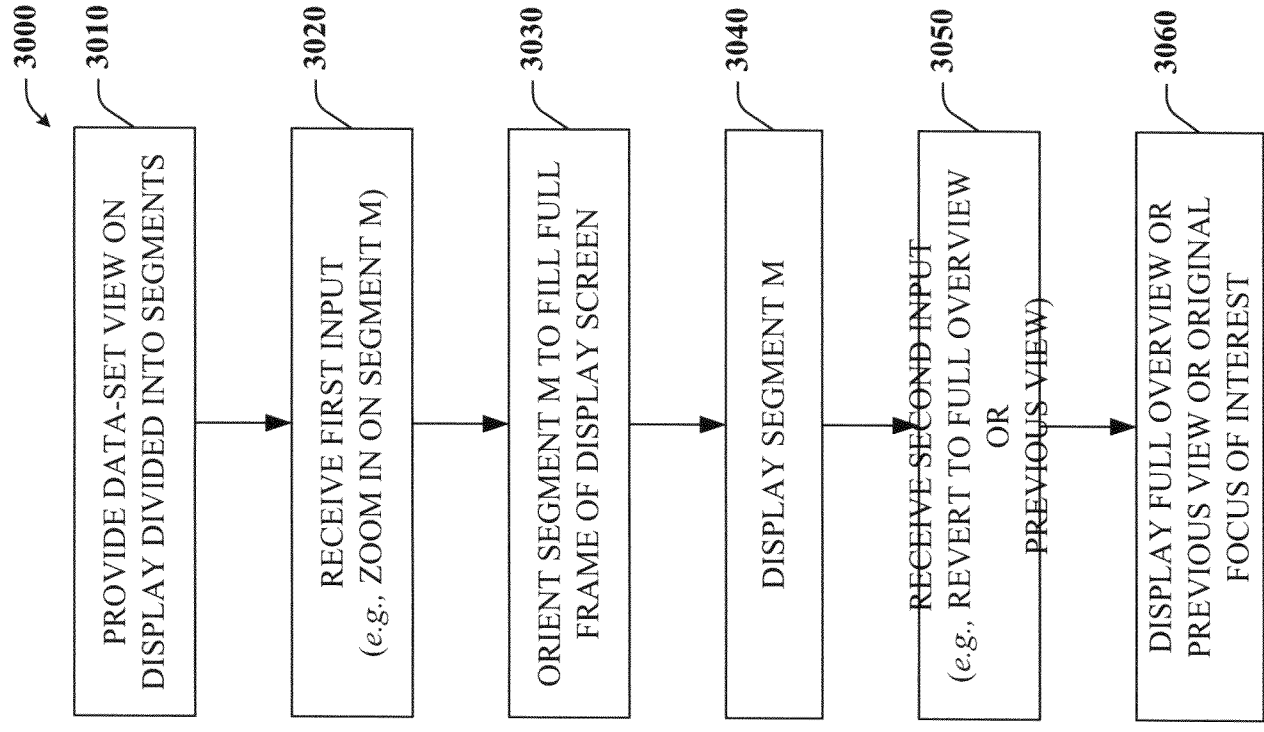


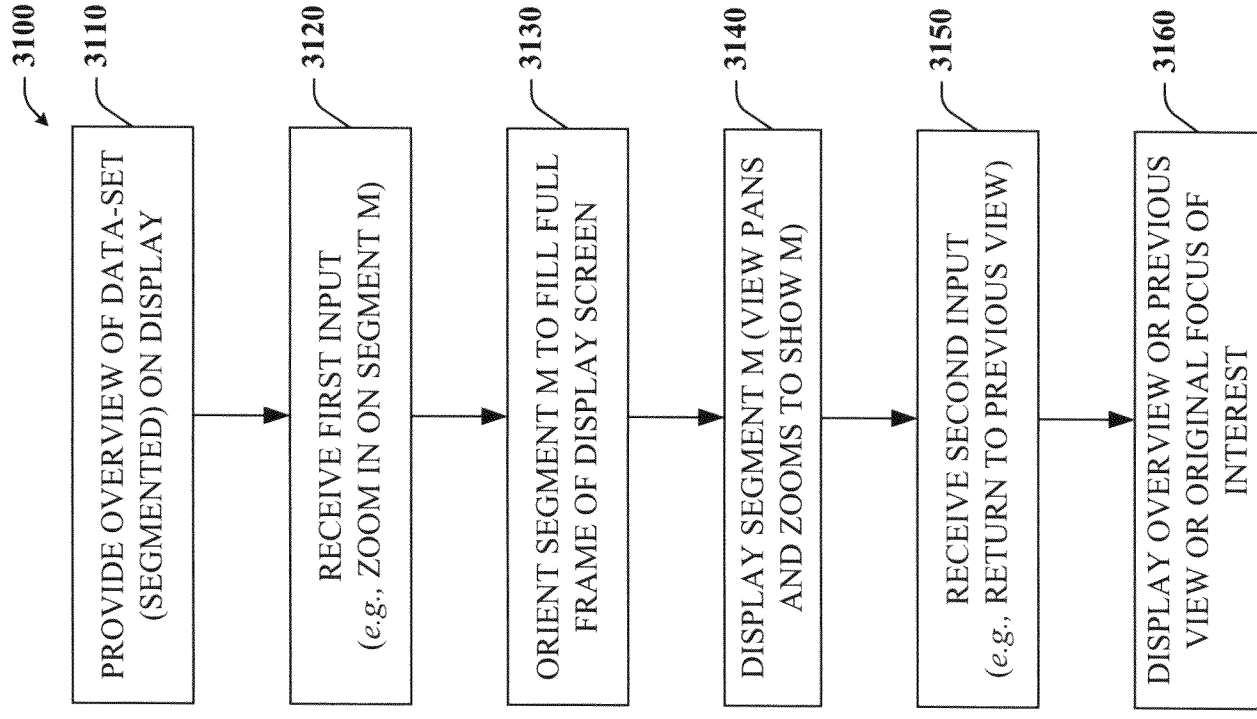
FIG. 28



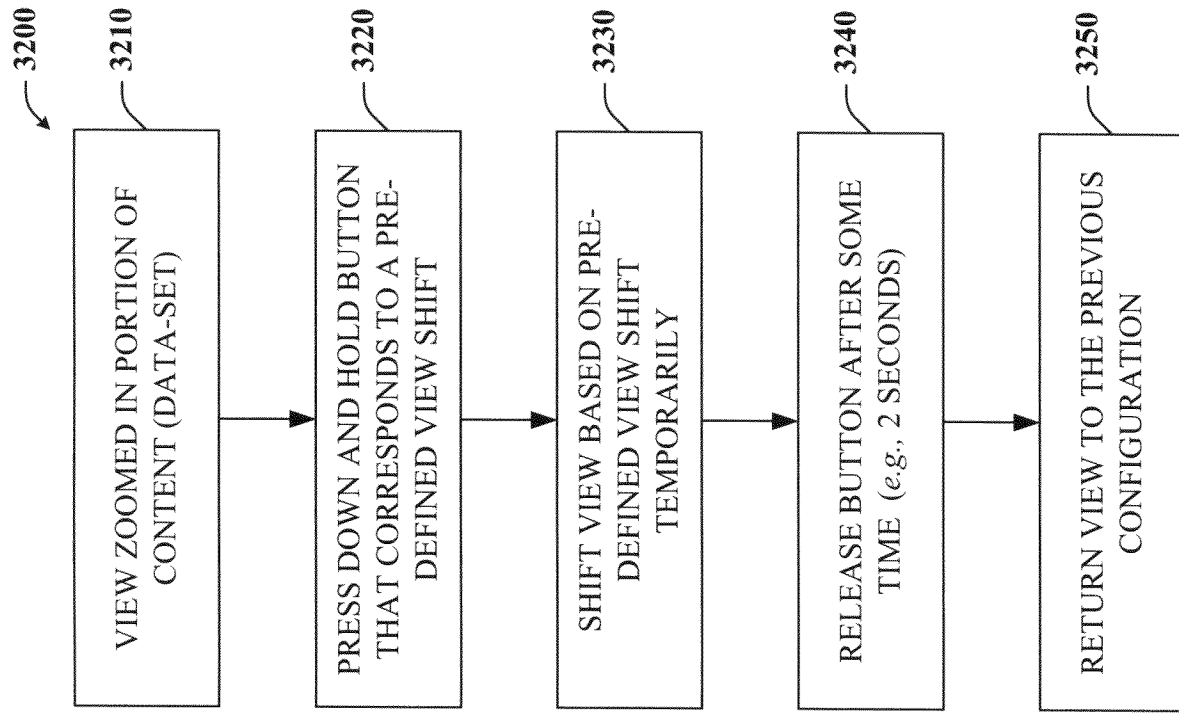
**FIG. 29**



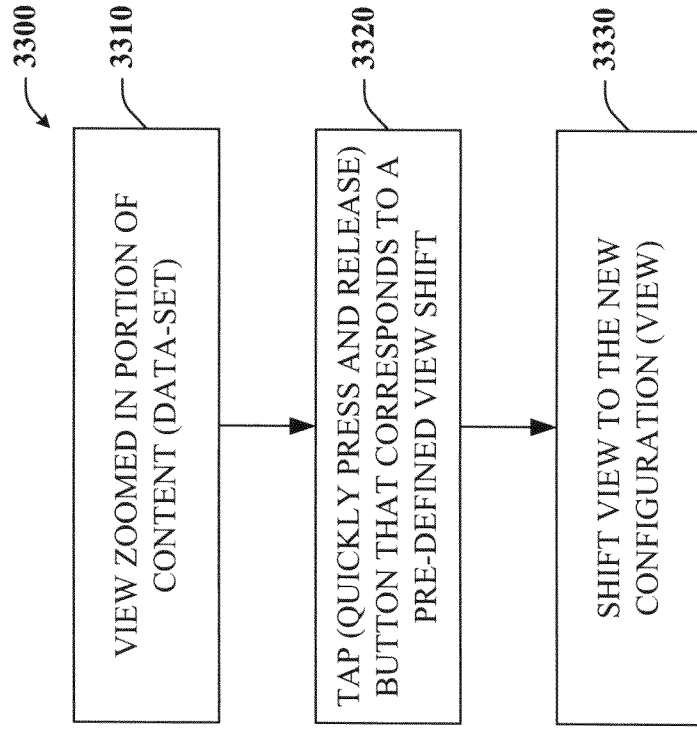
**FIG. 30**



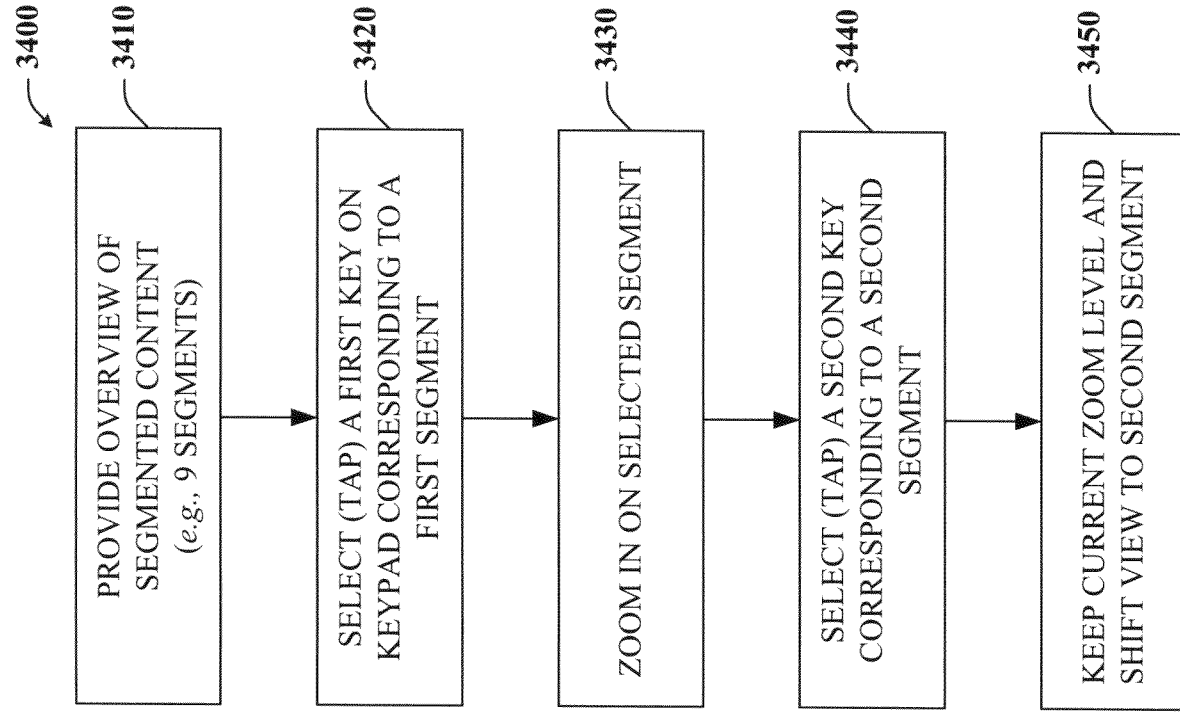
**FIG. 31**



**FIG. 32**



**FIG. 33**



**FIG. 34**

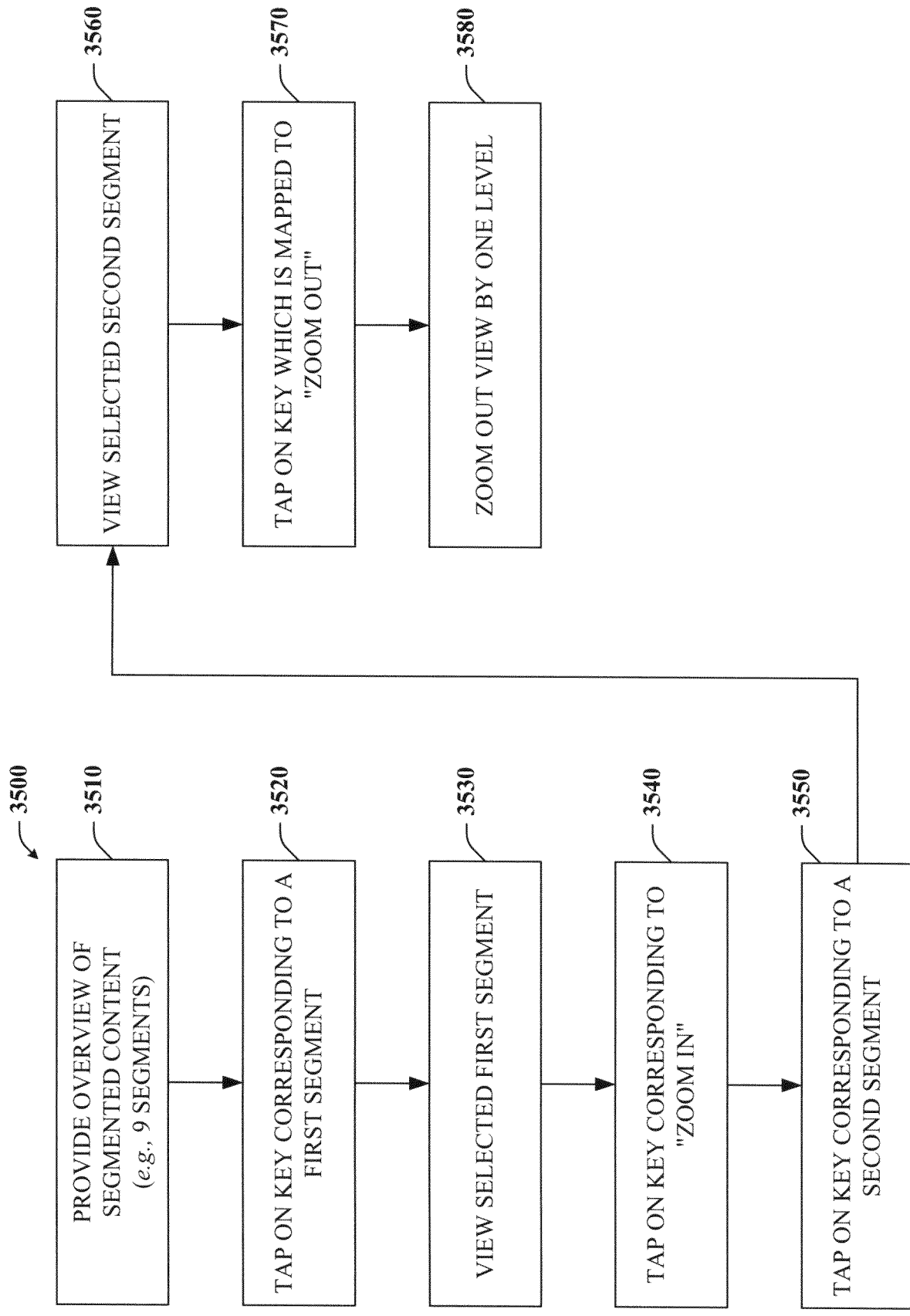


FIG. 35



3600

3610

PROVIDE CONTENT ON DISPLAY  
SCREEN AND POINTING DEVICE



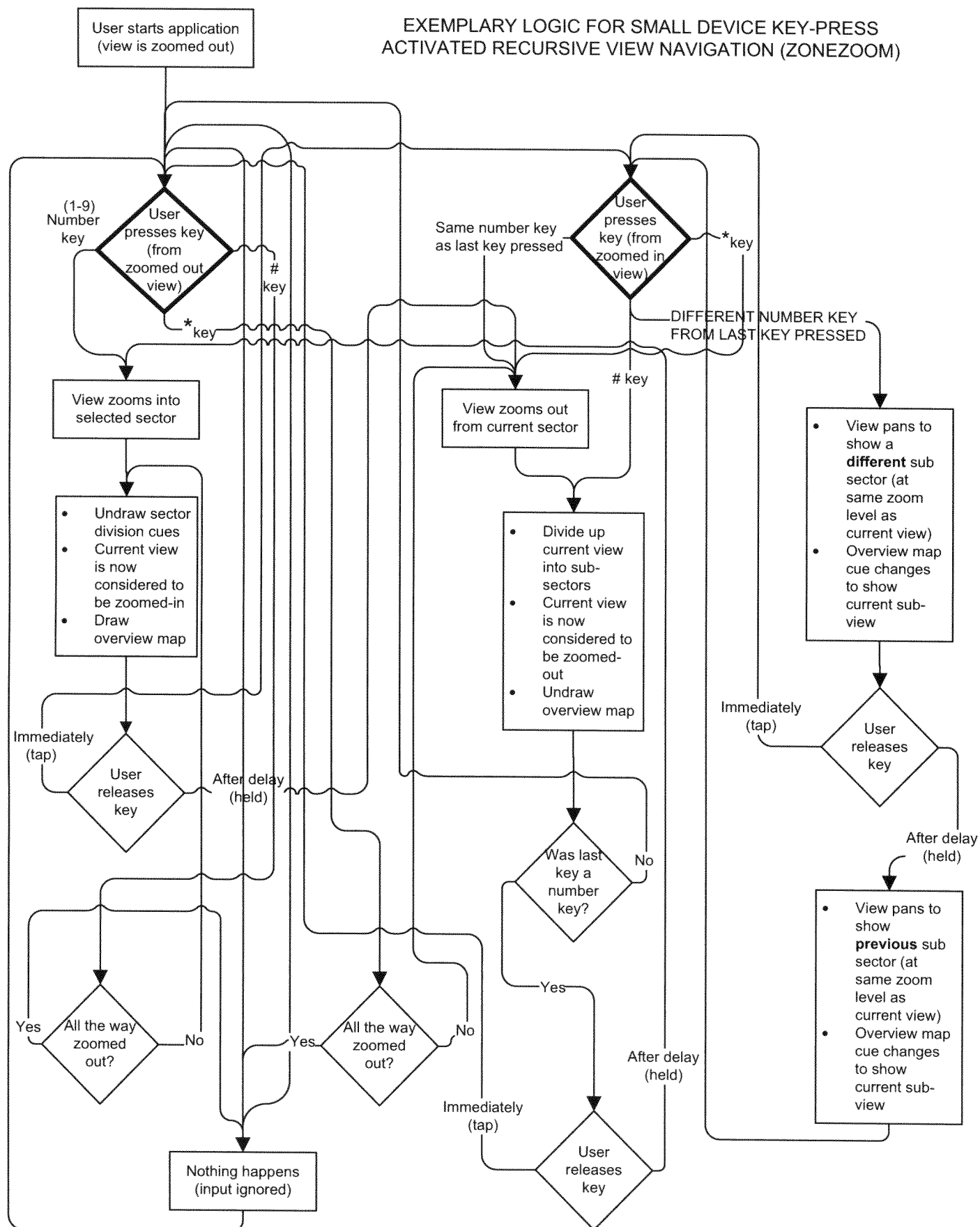
3620

USE POINTING DEVICE TO

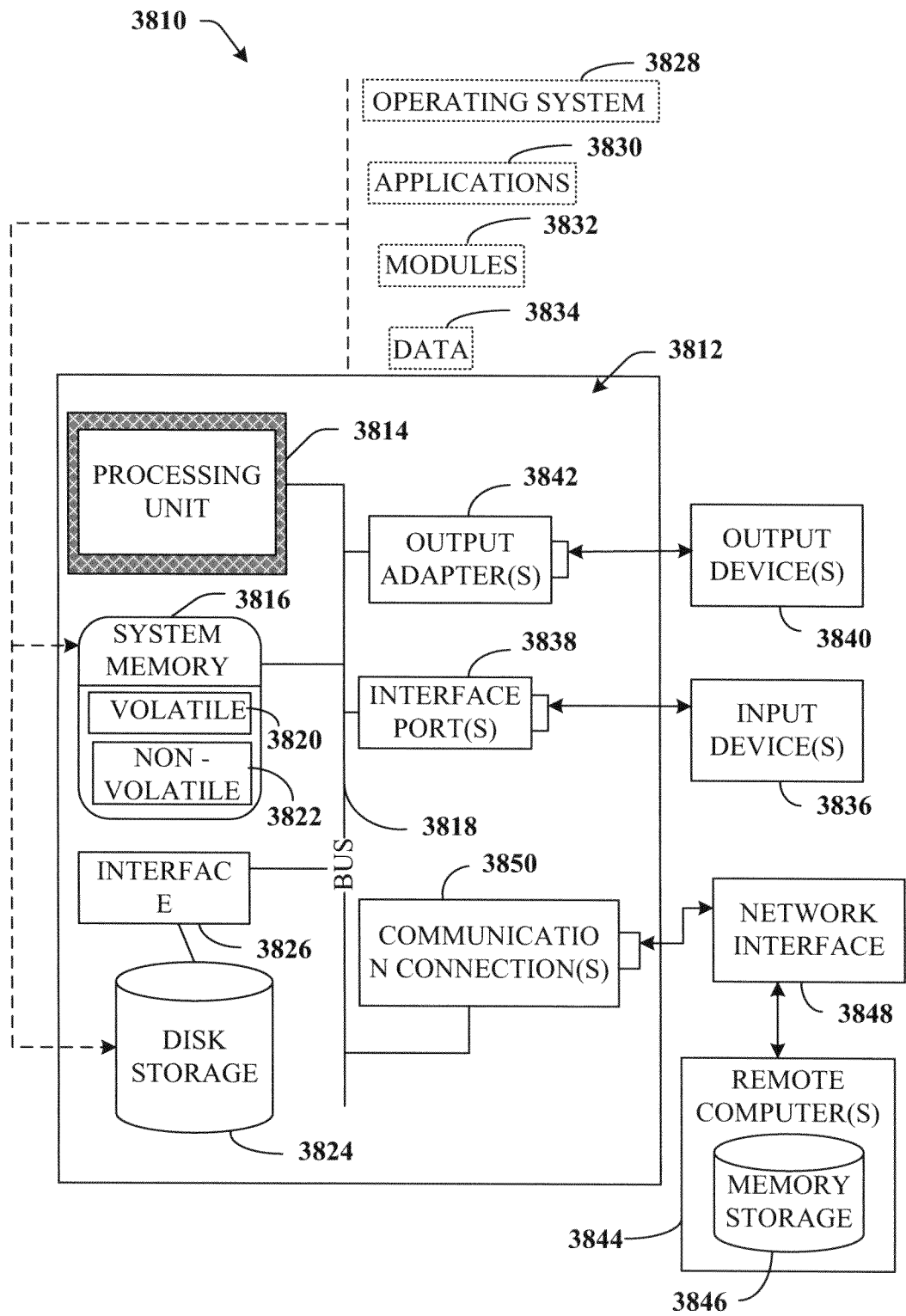
NAVIGATE THROUGH CONTENT:

- DRAG POINTING DEVICE OVER CONTENT SLOWLY WHEN ZOOMING TO GENERATE SEMI-TRANSPARENT OVERLAY OF OVERVIEW OVER THE ZOOMED IN CONTENT
- PRESS POINTING DEVICE ON SCREEN TO ZOOM IN
- MOVING POINTING DEVICE FASTER LESSENS DETAIL OF VIEW
- MOVING POINTING DEVICE SLOWER OVER CONTENT YIELDS VIEWING MORE DETAIL OF THE CONTENT
- USE PREDEFINED BUTTONS AND/OR POP-UP MENUS ON DISPLAY TO ZOOM OUT, PLACE A PUSHPIN, AND/OR OBTAIN MORE INFO ABOUT THE ZOOMED IN CONTENT

**FIG. 36**



**FIG. 37**



**FIG. 38**